Ordering number: EN 2900

Monolithic Linear IC

No.2900

LA7293M

Microphone Amplifier for Video Cameras

Overview

Discrete devices or an operational amplifier + discrete devices have been so far used to make up a microphone amplifier block. However, we succeeded in developing the LA7293M—a streamlin-ed microphone amplifier block IC —that has the following functions and features.

Functions

- Microphone amplifier
- Power supply pin for microphone (with ripple filter)
- External power supply pin (with current limiter)

Features

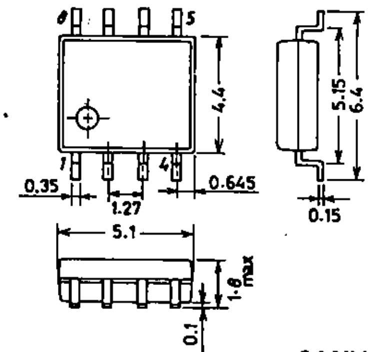
- Power supply for capacitor microphone.
- External 5V supply.
- Microphone amplifier gain, frequency response variable.

Package Dimensions

unit : mm

3032B-MFP8

[LA7293M]



SANYO : MFP8

Specifications

Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max		9.0	V
Allowable power dissipation	Pdmax	Ta=65°C	180	mW
Operating temperature	Topr		−10 to +65	°C
Storage temperature	Tstg		−55 to +125	°C

Operating Conditions at Ta=25°C

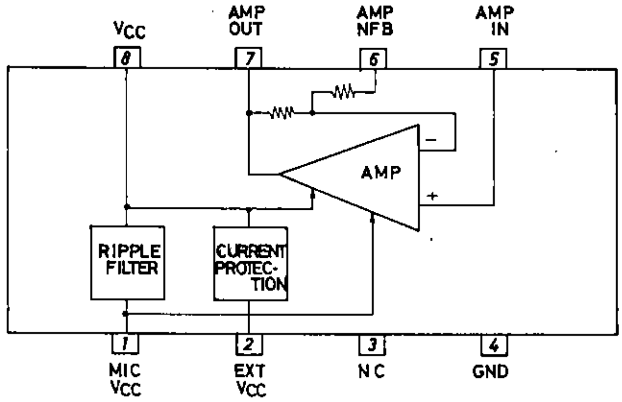
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}		5.0	V
Operating voltage range	V_{CC}op		4.0 to 5.5	V

Operating Characteristics at Ta=25°C, V_{CC}=5V, f=1.0kHz, 0dBv=1.0Vrms

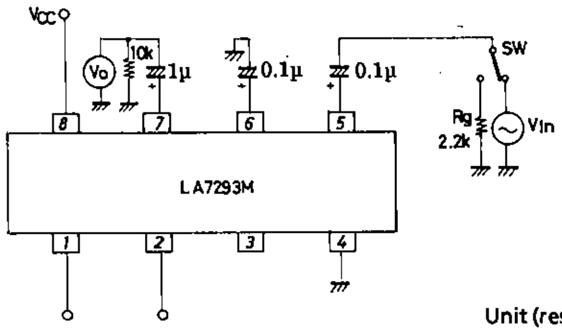
Parameter	Symbol	Conditions	min	typ	max	Unit
Voltage gain	VG	V_O=−10dBv	30	31	32	dB
Total harmonic distortion	THD	V_O=−10dBv		0.1	0.2	%
Maximum output	V_{OM}	THD=1.0%	−3.2	−1.2		dBv
Output noise voltage	V_{NO}	Rg=2.2kΩ, DIN audio filter		−82	−76	dBv
Microphone supply output voltage	V_1	Pin 1 voltage	2.5	2.8	3.0	V
External supply output voltage	V_2	Pin 2 voltage for pin 2 output current (25mA)	4.0	4.5		V
External power supply protection	I_2	Pin 2 output current when pin 2 is grounded			30	mA
Current drain	I_{CC}	Pin 1,2 open		3.0	4.0	mA

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Block Diagram

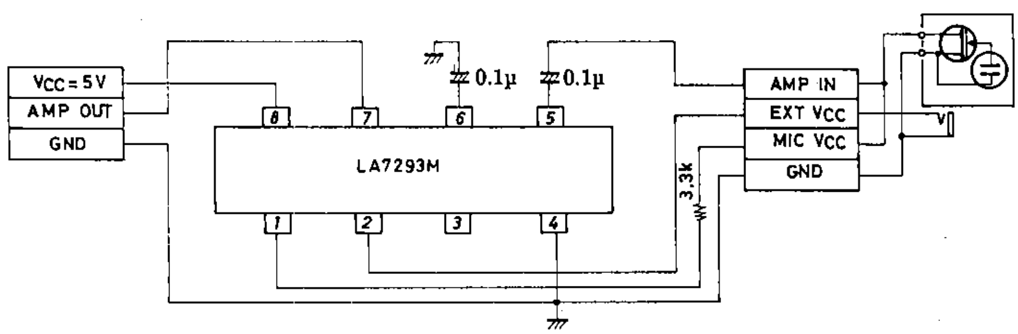


Test Circuit



Unit (resistance : Ω, capacitance : F)

Sample Application Circuit



Unit (resistance : Ω, capacitance : F)

This catalog provides information as of **December, 1995.** Specifications and information herein are subject to change without notice.